

### Abstract

A new and useful method and system for correcting for ghost images in a telecentric optical system is provided. Ghost images generated from planar optical surfaces in the image space after the major elements of a telecentric optical system are shift invariant. In other words the ghost images produced by these optical elements do not change their shape with different field angles or points. The ghost image's invariance with field position will allow the ghost image to be subtracted or removed from the image of an object recorded on a digital detector such as CCD or CMOS detector when its optical system is telecentric in image space. This subtraction may be accomplished, for example, with a removal technique using a measured ghost function germane and invariant to that particular optical system. The combination of the ghost image and scatter functions is linearly shift invariant and therefore, both noise contributions could be removed from the resulting digital image using similar removal techniques.

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